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Polymers on the Basis of Reaction Products of Furfurol With Diacetone Alcohol and Boron-containing Ester of Diacetone Alcohol S/191/60/000/005/006/020 B004/B064

insoluble and unmeltable after 23 minutes. Instantaneous hardening occurred in the presence of 3 % benzene sulfonic acid. The coke number was 64 - 65 %, the heat resistance according to Zhurkov, 250°C. Moreover, the boric acid ester of diacetone alcohol was produced from diacetone alcohol and boric acid tributyl ester (molar ratio 3 : 1), fractionated in vacuo, and the fraction corresponding to the boron content of the boric acid ester (3.2 %) used for the reaction with furfurole. It took place:
 A) Dissolved in organic solvent, with 3 % NaOH, referred to furfurole, as a catalyst. No resin was formed after heating to 90 - 95°C for 24 hours.
 B) Without solvent, NaOH being the catalyst. A 10 - 11 hours' heating to 120°C yielded 65 - 70 % resin. C) Without solvent, the CEC (SBS) type cation exchanger being the catalyst. Heating to 120°C yielded already after 6 hours 65 - 70 % resin with a coke number of 69 %, and a heat resistance of up to 400°C. These polymers may be well combined with epoxy-, phenol formaldehyde-, or furfurole acetone resins. Thus, it is possible to raise the heat resistance of these resins. There are 1 figure, 4 tables, and 6 references: 2 Soviet, 3 US, and 1 British.

Card 2/2

... contains a means for modifying polyfunctional-
colony resins with glycidic esters. Glycidic esters of furen acids are used.

ST-22

PETROV, D.F.; SANKIN, L.S.; KRYLOVA, G.V.

Polyploid forms of *Fragaria vesca* and *F. orientalis*. Trudy
TSSBS no. 2:65-68 '64. (MIRA 17:9)

AZAROVA, M.M., kand. ekon. nauk, dots.; BAUTINA, N.V., kand. ekon. nauk, dots.; DOBRUSHIN, I.M., kand. ekon. nauk; MAKHON'KO, T.P., kand. ekon. nauk, dots.; TOLYPIN, Yu.M., kand. ekon. nauk, dots.; KOZODOYEV, I.I., doktor ekon.nauk, prof., red.; GARSIA, L., red.; MITINA, M., red.; DARONYAN, M., mladshiy red.; KRYLOVA, I., mladshiy red.; NOGINA, N., tekhn. red.

[Chrestomathy in economics] Khrestomatia po politicheskoi ekonomii. 2., perer. i dop. izd. Moskva, Sotsekgiz, 1963. 798 p. (MIRA 16:4)

(Economics)

GULANYAN, Khach'ik Grigor'yevich; TATARYAN, Gurgun Arsenovich;
MITINA, M., red.; KRYLOVA, I., mlad. red.

[Technological progress and labor organization; based on
materials from chemical and machinery industry enterprises]
Tekhnicheskii progress i organizatsiia truda; po materialam
predpriatii khimicheskoi i mashinostroitel'noi promyshlennosti.
Moskva, Izd-vo "Mysl'" 1964. 213 p. (MIRA 17 8)

MAL'TSEV, Nikolay Aleksandrovich; KRYLOVA, I., red.

[Material and moral incentives for labor in industry]
Material'noe i moral'noe stimulirovanie truda v pro-
myshlennosti. Moskva, Mysl', 1965. 94 p.
(MIRA 18:2)

POLESHCHUK, Nikolay Grigor'yevich; BAKOVETSKIY, O., red.; KOSLOVA, I.,
mlad. red.

[Main problems of the economics of the fuel-power base of
the U.S.S.R.] Osnovnye voprosy ekonomiki toplivno-energeti-
cheskoi bazy SSSR. Moskva, Mysl', 1965. 132 p.
(MIRA 18:4)

KRYLOVA, I.A.

Polyclinical prevention and therapy of myocardial infarction
by anticoagulants. Sov.med. 23 no.4:43-47 Ap '59.

(MIRA 12:6)

1. Iz kafedry gosspital'noy terapii (zav. - prof.P.Ye.Lukomskiy)
II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova i
terapevticheskogo otdeleniya (zav. I.A.Krylova) polikliniki
No.68 imeni prof. A.F.Reyna (glavnyy vrach Ye.F.Gur'yeva)
Moskvoretanskogo rayona Moskvy.

(ANTICOAGULANTS, ther. use,
myocardial infarct (Rus))

(MYOCARDIAL INFARCT, ther.
anticoagulants (Rus))

L 12889-03

EPF(c)/ENP(j)/ENT(m)/BDS ASD/AFTTC Pr-4/Pc-4 RM/AM

ACCESSION NR: AP3001425

S/0138/63/000/004/0001/0005

AUTHOR: Shatalov, V. P.; Gostev, M. M.; Krylova, I. A.; Artemov, V. M.;
Shestakova, O. G.; Korbanova, Z. N.; Slukin, A. D.; Sotnikov, I. F.; Torbinskiy,
A. M.

TITLE: Low-temperature polymerized butadiene-styrene rubber with a carbon black-oil filler

SOURCE: Kauchuk i rezina, no. 4, 1963, 1-5

TOPIC TAGS: polymerization, carbon black filler, oil filler, butadiene rubber, styrene rubber

ABSTRACT: Studies were conducted on the preparation of stable dispersions of various types of carbon black, with and without surface-active substances. The latter included potassium rosinate, Leukanol, and ammonium caseinate. The dispersions were prepared in ball mills, in jet mills, and by means of a vibrator. The kinetic and aggregate stability of the dispersions were determined. Potassium rosinate and Leukanol produced dispersions which did not separate for several days. The oil emulsion was prepared with the aid of stearic acid and triethanolamine. The carbon black dispersion was mixed with the latex of butadiene-styrene rubber

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L 12882-63

ACCESSION NR: AP3001425

and into it was introduced the oil emulsion. The coagulation of this mass was best achieved by pouring it into a 9% solution of sodium chloride containing 7% sulfuric acid at 40C. It was found that the introduction of carbon black into the latex previous to coagulation had a favorable effect on the technological properties of the vulcanizates and permitted the processing of rubbers with a higher molecular weight. The KhAP brand of carbon black and the use of potassium resinate as emulsifier produced vulcanized rubbers of superior strength and abrasive properties, with a higher modulus of elasticity and with a better adhesion to the cord. Pasy*nkov, N. V., Rondaryev, A. Ye., and Gergasevich, T. V. participated in the work. Orig. art. has: 3 tables.

ASSOCIATION: Voronezhskiy zavod sinteticheskogo kauchuka i Voronezhskiy shinnyy zavod (Voronezh Synthetic Rubber Plant and Voronezh Tire Plant)

SUBMITTED: 00

DATE ACQ: 30May63

ENCL: 00

SUE CODE: 00

NO REF SOV: 002

OTHER: 002

Card 2/2

ACCESSION NR: AP4011308

S/0069/64/026/001/0057/0060

AUTHORS: Kry*lova, I. A.; Pospelova, K. A.; Zubov, P. I.

TITLE: Stabilizing aqueous dispersions of carbon black with surface active agents

SOURCE: Kolloidny*y zhurnal, v. 26, no. 1, 1964, 57-60

TOPIC TAGS: carbon black, channel black, stabilized aqueous suspension, Leukanol stabilized carbon black, rubber filler, dispersion stabilization, specific surface, NAF carbon black, Ukhtin channel black

ABSTRACT: Aqueous suspensions of NAF carbon black and Ukhtin channel black stabilized by Leukanol and by the potassium soap of hydrogenated rosin were compared. The specific surface area of the stabilized aqueous carbon black is less than that of the channel black, indicating greater aggregation of the carbon black particles and more strongly coagulated structures. The lesser stability of the NAF carbon blacks apparently improves contact of these particles with latex globules, causing more effective reinforcing of rubbers in

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ACCESSION NR: AP4011308

latex.

"The authors thank N. N. Lezhnev under whose direction the carbon black analysis was conducted."

Orig. art. has: 4 Figures and 2 Tables.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR Moskva (Institute of Physical Chemistry AN SSSR)

SUBMITTED: 28May63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: MA

NR REF SOV: 004

OTHER: 001

2/2

Card

KRYLOVA, I.A.; ZADIONCHENKO, V.S.; MARTYNOV, A.I.; SLOV'YEV, V.V.

Polyclinical prevention and antithrombotic treatment of disorders
of the coronary blood circulation. Sov.med. 28 no.11:86-90 N
'65. (MIRA 18:12)

1. Kafedra gosptal'noy terapii (zav. - deystvitel'nyy chlen
AMN SSSR prof. F.Ye.Lukomskiy) II Moskovskogo meditsinskogo
instituta imeni P.I.Pirogova i poliklinika No.68 (glavnyy
vrach Ye.F.Gur'yeva).

KRYLOVA, I.A.; GOSTEV, M.M.; KOVRIZHEK, L.P.; ZHUKOV, P.I.; KOSHELOVA,
K.A.; PASYNKOV, N.V.; SOTNIKOV, I.A.

Effect of surface-active agents on the strength characteristics
of the vulcanizates of carbon black extended SKA-30APK rubber.
Kauch. i rez. 24 no.12:13-14 '66. (MIRA 18:12)

1. Institut fizicheskoy khimii AN SSSR i Voronezhskiy zavod
sinteticheskogo kauchuka im. S.M. Kirova.

SHRETER, Aleksey Ivanovich, kand. biol. nauk; KRYLOVA, Irina I'vovna,
kand. biol. nauk; STAROSTENKOVA, M.M., red.; NAZAROVA, A.S.,
tekhn. red.

[How medicinal plants are found] Kak nakhdiat lekarstvennye rasten-
niia. Moskva, Izd-vo "Znanie," 1962. 37 p. (Novoe v zhizni,
nauke, tekhnike. VIII Seriya. Biologiya i meditsina, no.8)
(MIRA 15:6)

(BOTANY, MEDICAL)

KRYLOVA, I.I.

Distribution patterns of some life forms. Bot. zhur. 49
no.9:1237-1247 S '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh
i aromaticeskikh rasteniy, Moskva.

dissertation: "Biology of the Birch and Pine Tree in the Lower Limits of the Forest in the Crimean Mountains." Inst Biol Sci, Moscow City College Inst Inst Inent N. S. Poterkin, 12 Apr 54. (Sechernyaya Moskva, Moscow, 2 Apr 54)

SO: SM 215, 19 Oct 1954

KRYLOVA, I.L.

Development of regenerative shoots in the pine and beech [with
summary in English]. Biol.MOIP.Otd.biol. 63 no.3:105-111 My-Je
'58. (MIRA 12:3)
(PINE) (BEECH) (REGENERATION (BOTANY))

KRYLOVA, I.L.; NOVOSEL'TSEVA, I.F.

A survey of vegetation of the Kerch Peninsula. Bot.zhur. 44
no.11:1616-1624 M '59. (MIRA 13:4)

1. Institut lesa i drevesiny Akademii nauk SSSR, g.Krasnoyarsk.
(Kerch Peninsula--Plant communities)

KRYLOVA, I.L.

Growth of pines in the Crimean Mountains as an indicator of
environmental conditions. Biul. MOIP. Otd. biol. 65 no.1:91-100
Ja-F '60. (MIRA 13:7)
(CRIMEAN MOUNTAINS--PINE) (GROWTH (PLANTS))

KRYLOVA, I.L.

Shortened shoots in the pine family. Biol. MOIP. Otd. biol. 65 no.5:
116-119 8-0 '60. (MIRA 13:12)
(PINE) (BOTANY—MORPHOLOGY)

KRYLOVA, I.L., kand.biol.nauk (Moskva)

"Protection and development of natural resources of the Crimea."
Priroda 50 no.1:119-120 Ja '61. (MIRA 14:1)
(Crimea—Natural resources)

KRYLOVA, I.L.

Use of botanical indexes in the determination of some climatic
boundaries. Trudy MOIP 8:206-209 '64.

(MIRA 17:12)

May 52

USSR/Chemistry - Catalysts

"Active Centers and Mechanism of the Oxidation of Sulfur Dioxide," V. I. Shekhtobalova, I. V. Krylova, N.I. Kobozev, Moscow State University M.V. Lomonosov

"Zhur Fiz Khim" Vol XXVI, No 5, pp 703-718

The elementary centers of the oxidation of sulfur dioxide are the monoatomic ensembles Pt₁ and Pd₁, no matter what the chemical nature of the catalyzing metal (i.e., Pt, Pd) and the carrier may be. The activity of the monoatomic Pt ensemble does not depend very strongly on the nature of the carrier. The observed dependence of activity on the degree of filling of the carrier's surface is in

21979

accordance with the equations of the theory of active ensembles. The carrier may affect activity by its geometric structure and its inhomogeneity of surface. The latter effect is apparent only when there is a high dilution of the catalyst layer on the surface. The fact that single Pt and Pd atoms are active proves the purely oxidative character of the process and refutes Wieland's dehydrogenation theory (i.e., hydration of sulfur dioxide followed by dehydration), because the action of monoatomic ensembles is required by this theory.

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KRYLOVA, I. V.

USSR/Chemistry - Catalysts

" 52

"The Catalytic Oxidation of SO_2 : II. The Kinetics of the Oxidation of SO_2 in the Region of Atomic and Crystalline Films of Platinum and Palladium," V. I. Shekhtobalova, I. V. Krylova and N. I. Kobozev, Moscow State U

"Zhur Fiz Khim" Vol 26, No 11, pp 1666-1672

The authors identified the active centers of Pt metal catalysts, during the oxidation of SO_2 , beginning with very thin X-ray-amorphous films of Pt on silicagel, and ending with clearly crystalline catalysts. As characteristic properties, they singled out the specific form of the kinetic law of SO_2 oxidation and the magnitude of the energy of activation. They deduced that the peculiar form of the kinetic law discovered for the catalytic oxidation of SO_2 on Pt wire remains accurate for the thinnest Pt films on silicagel; also, that the oxidation of SO_2 on Pd is also subject to this law. This was confirmed by the identical structure of the active centers of (Pt_1) and (Pd_1) . They deduced that the energy of activation of SO_2 oxidation on Pt is constant, beginning with very thin films of Pt on silicagel and ending with the crystalline catalyst; this energy was equal to 19,000 small calories. On Pd the energy of activation was equal to 27,000 small calories. To the authors.

(2)

242T15

all the above demonstrated the identity of active centers in amorphous (atomic) and crystalline catalysts. In this case, the elemental active center is the single atom Pt_1 or Pd_1 , fixed by the surface of the carrier, whether silicagel or crystalline Pt. The authors conclude that the crystalline phase of Pt has no practical effect on the character of the active centers, and therefore plays no determining role in the catalytic process.

(3)

242T15

KRYLOVA, I. V.

LOMONOVA, I. V.

Dissertation: "Results of the Application of Certain Optical and Magnetic Methods of Catalysis." Cand Chem Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 28 May 54. Vechernyaya Moskva, Moscow, 19 May 54.

SO: SUM 284, 26 Nov 1954.

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000826830010-3

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CIA-RDP86-00513R000826830010-3"

KRYLOVA, I.V.; KOBOZEV, N.I.

Magnetochemistry of active centers. Part 3. A magnetic study of the
photographic process. Zhur. fiz. khim. 30 no.11:2483-2488 N '56.
(MLBA 10:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Photographic chemistry)

AUTHORS: Krylova, I.V., Kobozev, N.I.

76-12-19/27

TITLE: The Magnetochemistry of Active Centers (Magnetokhimiya aktivnykh tsentrov). V. Photocatalytic and Photomagnetic Effects With Adsorption- and Crystalline Catalysts (V. Fotokataliticheskiy i fotomagnitnyy effekty u adsorbtsionnykh i kristallicheskikh katalizatorov).

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 12, pp.2725-2732 (USSR)

ABSTRACT: The present report arose from an observation during the investigation of the magnetochemistry of a photographic process [Ref.1]. It has turned out that with a permanent illumination of the silver precipitated by the photolysis of AgCl, with a mercury-quartz-lamp, the magnetizability of the silver increases very intensely and that it passes over from the range of diamagnetism to that with a considerable paramagnetism. Consequently, there is also a photocatalytic effect besides the photomagnetic one. In this context the investigation of the action of radiation on the magnetical and catalytical properties of other metals (Pt, Pd) at various physical states (adsorption-layers, blackness) was carried out. The following systems were investigated: 1.) Catalysts of adsorption: Pt/SiO₂ with a degree

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The Magnetochemistry of Active Centers. V. Photocatalytic
and Photomagnetic Effects With Adsorption- and Crystalline
Catalysts

76-12-19/27

of filling $\alpha = 0.0178$, Pt/Al₂O₃ with $\alpha = 0.001$, Pd/SiO₂ with $\alpha = 0.01$. 2.) Platinum- and palladium-blackness. The basic result of this work consists in the determination of the photosensitivity of the metals with respect to their magnetical and catalytical properties and a substantial increase of the two effects at the transition of powders to the adsorption-layers (to the metals on the carriers). This difference consists in an approximately 100 times decrease of the exposure time in the case of the adsorption-layers in comparison with the powders (in view of obtaining the same photomagnetic and photocatalytic effect). With platinum and palladium the radiation with a non-filtrated light of a mercury quartz lamp produces a decline of catalytic activity with simultaneous increase of paramagnetism. In the next work it will be explained that the photosensitivity shows a certain distribution in the spectrum. The assumption is expressed that the effects found here are correlated with the formation of exo-electrons under the action of light. The metal-atoms and their ensembles can be considered in this context as electron-donors and the trap-levels of the carrier can be considered as their acceptors. In the case of dielectric carriers a return of the exo-electrons to the metal ions is rendered very

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The Magnetochemistry of Active Centers. V. Photocatalytic and Photomagnetic Effects With Adsorption- and Crystalline Catalysts

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difficult since there is very little probability for these electrons to reach the carrier-conductive-zone and with this that zone, which represents a common zone with the adsorbed Me^+ -ions. In this way there is very little probability given for a reversibility of the ionization process and a quick obtaining of photomagnetic and photocatalytic effects is guaranteed. - With metals, the picture is inverse. There is a wide conductive zone which requires the necessity of a longer exposure (to light). The primary cause for the decline of the catalytic activity at illumination is presumably the formation of non-active ions instead of the active adsorbed metal atoms. The non-active ions lose the catalytic properties on account of the loss of the valence electrons and their capture by the trap levels, or by the adsorbed gas. There are 5 figures, and 18 references, 11 of which are Slavic.

ASSOCIATION: Moscow State University imeni M.V.Lomonosov (Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova).
 SUBMITTED: October 5, 1956
 AVAILABLE: Library of Congress
 Card 3/3

86778

5.1190

2209, 1208, 1297

S/076/60/034/011/002/024
B004/B064

AUTHORS: Krylova, I. V., Ogarev, V. A., and Kobozev, N. I. (Moscow)

TITLE: The Effect of the Electronic Properties of the Carrier on the Photosensitivity of Platinum Catalysts

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 11, pp. 2408 - 2413

TEXT: In contrast to the negative results of other researchers, the authors succeeded in proving that preceding exposure to light of metal catalysts, i.e., of platinum on silica gel or platinum black, reduces their activity (Ref. 4). The present paper deals with the photo-effects of a platinum catalyst applied to various carriers. Boneblack, germanium, and bismuth were such catalysts. Their activity was determined by measuring the decomposition rate of H_2O_2 . The light source was a ПРК-2 (PRK-2) lamp.

A comparison of the results obtained for Pt on silica gel and platinum black with those of Ref. 4 led to the following conclusions: The decrease in the catalytic activity of platinum during exposure to light is assumed

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The Effect of the Electronic Properties of the S/076/60/034/011/002/024
Carrier on the Photosensitivity of Platinum B004/B064
Catalysts

to be due to photo-ionization of the active platinum atoms and their transition into inactive forms of ions. The photosensitivity of the platinum catalysts depends on the electronic properties of the carrier. The broader the forbidden zone of the dielectric carrier, the more difficult is the return of the electrons to the ionized centers, the higher is the concentration of the photoionized, deactivated Pt atoms and, accordingly, the greater is the decrease of activity. If, instead of a dielectric (silica gel), a semiconductor (carbon, germanium) or a metal (Bi, Pt) is used as a carrier, the smaller forbidden zone in semiconductors and the absence of a forbidden zone in metals will increase the probability of a return of the electrons to the ionized platinum atom, and the effect of light will decrease. Therefore, Pt on silica gel showed the highest, on carbon or Ge a medium, and on platinum black the least decrease of catalytic activity after exposure to light. I. A. Zubovich is mentioned. There are 8 figures and 6 references: 5 Soviet and 1 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 17, 1959
Card 2/2

22006

S/076/61/035/004/014/018
B106/B201

24-3560 1035, 1160, 1158

AUTHORS: Krylova, I. V., and Kobozev, N. I.

TITLE: Magnetochemistry of active centers.
VI. Magnetic properties of crystal phosphor catalysts

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 4, 1961, 911 - 916

TEXT: In continuation of an earlier paper (Ref. 3: I. V. Krylova, M. N. Danchevskaya, N. I. Kobozev, Zh. fiz. khimii, 29, 1684, 1955) on the catalytic and luminescence properties of two catalyst systems (crystal phosphors from zinc oxide, applied to silica gel (ZnO/SiO_2), and copper-activated zinc sulfide ($\text{ZnS}\cdot\text{Cu}$)), the authors of the present paper studied the magnetic properties of these two catalytic systems. The catalysts of the type ZnO/SiO_2 which were examined here contained very different amounts of zinc oxide (the covering density α varied between 0.0002 and 0.1 of the monomolecular layer), and the activated zinc sulfide catalysts contained from 10^{-6} to 10^{-2} g Cu per g of ZnS. The ZnO/SiO_2 cata-

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Magnetochemistry of active ...

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B106/B201

X

lysts were prepared by stirring fine silica gel powder into the solution of a given amount of zinc nitrate; after a 24-hour standing time the solution was vaporized together with the silica gel, the catalyst was dried, and heated up to 400°C for three hours, to allow the remaining zinc nitrate to decompose completely. The ZnS·Cu catalysts were prepared by impregnating zinc sulfide with a copper nitrate solution and subsequent heating up to 800°C (without melting). The authors applied Faraday's method to examine by a scale of I. N. Ozeretskovskiy's system the dependence of the magnetic susceptibilities χ of the two catalyst systems on the covering

density α of silica gel with zinc oxide, or on the content of the Cu activator in the ZnS luminophore. The investigation yielded the following results: (1) In case of a strong dilution of the luminophore layer (ZnO) on the carrier (SiO₂) and a low content of the activator (Cu) in the

luminophore (ZnS), the magnetic susceptibility of the specimen goes through a very high maximum, i.e., a paramagnetization of the diluted layers takes place in the same way as in metals. The height of the maximum is even indicative of a hyperparamagnetism of diluted layers. The

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B106/B201

Magnetochemistry of active ...

susceptibility referred to 1 g of the luminophore applied, or to 1 g of the activator contained attains at high degrees of dilution values of 10^4 (at $\alpha_{\text{ZnO}}\text{SiO}_2 = 5 \cdot 10^{-4}$), or of 10^6 (at $\text{Cu:ZnS} = 1.5 \cdot 10^{-6}$, 1) units

$\chi \cdot 10^{-6}$. To make this very strong paramagnetism fit the possible number of Bohr magnetons per particle, one must assume that each ZnO or Cu^+ particle causes the paramagnetization of a large zone of the carrier lattice, this zone being considerably larger in the lattice of the ZnS semiconductor than in the lattice of the SiO_2 dielectric. (2) A close relationship exists between the magnetic and the luminescence properties of luminophores. The magnetic susceptibility and the duration of after-glow of $\text{ZnS} \cdot \text{Cu}$ -type luminophores depend in perfectly the same manner on the content of the Cu activator. This marked similarity is indicative of the fact that the hyperparamagnetism is possibly related to the circumstance that many trapping levels of sufficient depth and heavily occupied by electrons are formed in the lattice of the carrier under the effect of the adsorbed or the dissolved activator. Mention is made of a paper by

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22006

S/076/61/035/004/014/018
B106/B201

X

Magnetochemistry of active ...

N. I. Kobozev, V. B. Yevdokimov, I. A. Zubovich, and A. N. Mal'tsev (Ref. 1: Zh. fiz. khimii, 26, 1349, 1952), where the magnetic properties of applied metallic catalysts have been studied. There are 3 figures, 2 tables, and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The two references to English language publications read as follows: K. Oshima, H. Nagano, J. Chem. Phys., 23, 1473, 1955; S. Zarach, J. Turkevich, J. Phys. Chem., 60, 1598, 1956).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: July 28, 1959

Card 4/5

KRYLOVA, I.V.; OGAREV, V.A.; LOBOZEV, N.I. (Moscow)

Effect of the nature of gas on the photocatalytic activity of
platinum catalysts. Zhur.fiz.khim. 35 no.10:2311-2315 0 '61.
(MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Photochemistry) (Catalysts) (Platinum)

YEYDINA, I.V.; JIBSHKOV, A.S.; KOBZEV, N.I.

Study of catalysts by the method of exoelectron emission.
Zhur.fiz.khim. 35 no.11:2657-2660 N '61. (MIRA 14:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Catalyst-)
(Electrons)

KIKYLOVA, I.V., kand. khim. nauk [translator]; KOBOZEV, N.I., prof.,
red.; MANUYLOVA, G.M., ed.; POTAPENKOVA, Ye.S., tekhn. red.

[Exoelectronic emission] Ekzoelektronnaya emissiya. Moskva,
Izd-vo inostr.lit-ry, 1962. 306 p. (MIRA 15:5)
(Electrons--Emission)

L 13533-63 EPF(c)/EWT(1)/EWT(m)/BDS AFFTC/ASD Pr-4 WW
 ACCESSION NR: AT3002332 S/2932/62/001/002/0153/0158

AUTHORS: Kobozov, N. I.; Krylova, I. V.

TITLE: Catalysts as photosensitive systems

SOURCE: Kataliz v vysshay shkole; trudy I Mezvuzovskogo soveshchaniya po katalizu, no. 1, pt. 2. Moscow, Izd-vo Mosk. univ., 1962, 153-158

TOPIC TAGS: catalyst, platinum, H sub 2 O sub 2, photocatalytic effect, H sub 2, palladium, Ar

ABSTRACT: The effect of irradiated light on the activity of metallic platinum catalyst has been studied. The decomposition of H_2O_2 was used as a controlling process. The metal was studied in various dispersion forms as black powders or in an adsorbed form on various carriers. Photocatalytic effect was observed in both metallic and adsorbed catalysts. In case of platinum this effect consists in the decrease of catalytic activity after its irradiation with light. The decrease of activity is greater when the catalyst is irradiated in an inert atmosphere of N_2 and Ar, and smaller when it is irradiated with light in hydrogen atmosphere. It is suggested that the decrease in activity of platinum catalysts takes place by means of ionization of Pt atoms and the strengthening of the

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L 13533-63

ACCESSION NR: AT3002352

valence electron trapped at the carrier level. In case of the irradiated palladium catalysts whereby the activity is increased, the explanation is that the electron transfer leads to the origination of two unpaired electrons at the palladium atom, in which case its catalytic activity is higher. The photocatalytic effect on Pt catalysts greatly depends on the electrical properties of the carrier. The greater the restricted zone of the carrier (or dielectrics), the greater is the probability of ionization of the Pt atoms which are adsorbed on this carrier, and conversely, with a decrease in the width of the restricted zone, the possibility of the electronic transfer between the carrier and the adsorbed platinum increases. Thus, the probability of the return of the valence electron to the platinum atom also increases. In accordance with this the greater decrease of activity through irradiation with light is observed in the case of platinum on silicagel and the smallest activity is observed in case of platinum black. Orig. art. has: 3 figures.

ASSOCIATION: Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta
(Department of Chemistry, Moscow State University)

SUBMITTED: 00

DATE ACQ: 10Jun63

ENCL: 00

SUB CODE: CH

NO REF SOV: 003

OTHER: 002

Card 2/2

24.3500

3/051/62/012/005/015/021
E075/E136

AUTHORS: Krylova, I.V., Shashkov, A.S., and Kobozev, N.I.

TITLE: Investigation of crystallophosphors ZnS.Cu by the
method of exoelectronic emission

PERIODICAL: Optika i spektroskopiya, v.12, no.5, 1962, 635-636

TEXT: A study was made of the influence of additions of Cu on the intensity of luminescence, exoelectronic emission and catalytic activity of ZnS. The phosphor samples were prepared from melt by heating in air at 800 °C. The emission was excited by X-rays and luminescence by ultraviolet light. Catalytic activity of the samples was measured by the decomposition of methanol between 300-350 °C. It was shown that non-activated ZnS gives comparatively weak emission. Small additions of Cu (7.5×10^{-6} and 7.5×10^{-4} g/g ZnS) give sharp emission maxima at 140 and 260 °C. The latter maxima were shown to correspond to maxima of catalytic activity at 330 °C. Thus the experiments demonstrated that the luminescence centres have a connection with the catalytic centres and exoelectronic emission, and that the

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Investigation of crystallophosphors.. S/051/62/012/005/015/021
E075/E136

latter is a promising method for the investigation of luminescence
centres, electronic emission and catalytic action. 4
There are 2 figures.

SUBMITTED: August 3, 1961

Card 2/2

S/189/63/000/001/004/008
D204/D307

AUTHORS: Shashkov, A. S., Krylova, I. V. and Kobozev, N. I.

TITLE: A study of the sintering of silver black by exoelectronic emission

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 1, 1963, 18-22

TEXT: The aim of the present work was the study of catalytic and emissive properties of silver black in dependence on temperature and previous thermal treatment. Ag black was obtained by the reduction of AgNO_3 with ammoniacal hydrazine sulfate at 0°C , and was fired in H_2 in the temperature range $50 - 650^\circ\text{C}$. The catalytic activity was assessed by the decomposition reaction of H_2O_2 , at 20, 30 and 40°C ; the energies of activation corresponding to variously pre-treated Ag catalysts were also measured. The catalytic activity of Ag black was found to decrease as the firing temperature was raised to $\sim 250^\circ\text{C}$, remained constant for firing temperatures

Card 1/2

A study of the sintering ...

S/189/63/000/001/004/008
D204/D307

of $\sim 250^{\circ}\text{C}$ to 550°C , and fell sharply in specimens fired at higher temperatures. The energies of activation were respectively ~ 5500 cal/mole and ~ 7000 cal/mole for specimens fired at $50 - 250^{\circ}\text{C}$ and $250 - 600^{\circ}\text{C}$. The exoelectronic emission increased slightly between 50 and 250°C , (for specimens fired at 200 and 250°C), and increased further between 250 and 550°C , the sharpest emission peak appearing at 550°C . The emission fell sharply at higher temperatures. Measurements of magnetic susceptibility on catalysts fired at different temperatures showed also that increased emissivity is connected with reduced diamagnetism. It is suggested that at low temperatures the catalysts contain a high proportion of an amorphous, chemically active atomic phase covering the crystals. After firing and exposure to air, a surface film of Ag_2O is formed. The surface concentration of this active phase is reduced after firing to $50 - 250^{\circ}\text{C}$, whilst catalysts fired at $300 - 500^{\circ}\text{C}$ possess a finely crystalline surface with a small proportion of the atomic phase. The crystals become coarser at 550°C , decreasing the specific surface of the catalyst. There are 5 figures.

Card 2/3

A study of the sintering ...

S/189/63/000/001/004/008
D204/D307

ASSOCIATION: Kafedra fizicheskoy khimii (Physical Chemistry Department)

SUBMITTED: February 12, 1962

Card 3/3

L 18321-63

EPF(o)/EWT(1)/EWT(m)/BDG/ES(w)-2 AFFTC/ASD/ESD-3/IJP(C)/

SSD Pr-4/Pab-4 RM/WW

ACCESSION NR: AP3004982

S/0076/63/037/008/1851/1854 74

73

AUTHORS: Shaskov, A. S.; Krylova, I. V.; Kobozev, M. I.

TITLE: Study of adsorption catalysts by exoelectronic emission 21

SOURCE: Zhurnal fiz. khimii, v. 37, no. 8, 1963, 1851-1854

TOPIC TAGS: adsorption catalyst, catalyst, exoelectronic emission, platinum, hydrogen peroxide, barium sulphate

ABSTRACT: Authors studied a series of catalysts of $Pt/BaSO_4$ type with a varied platinum content. The reflecting properties and magnetic susceptibility of the catalysts were studied in addition to the catalytic and emissive properties. Small additions of platinum result in intense activation of the exoelectronic emission with $BaSO_4$. They are catalytically inactive in the decomposition of hydrogen peroxide. Appearance of catalytic activity in the platinum coincides with the region of exoelectronic emission decrease and light reflection from the carrier. Analysis of magnetic susceptibility showed that catalysts with a small platinum content are paramagnets and those with a platinum concentration of 0.0018 to 0.0036 g/g $BaSO_4$ are diamagnets. Authors conclude that these results confirm the mechanism found earlier during the investigation of the luminescent

Card 1/2

L 18321-63
ACCESSION NR: AP3004982

properties of adsorption catalysts. Orig. art. has: 5 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet M. V. Lomonosova (Moscow
state university) Khimicheskiy fakul'tet (Chemical faculty)

SUBMITTED: 20Sep62

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: PH, CH

NO REF SOV: 004

OTHER: 003

Card 2/2

KOBOZEV, N. I.; KRYLOVA, I. V.; SHASHKOV, A. S.

"The effect of electron properties of support upon exoelectron emission and catalysis."

report submitted to 3rd Intl Cong on Catalysis, Amsterdam, 20-25 Jul 64.

Moscow State Univ im Lomonosov.

KRYLOVA, I.V.; FILONENKO, A.P.; KOBOZEV, N.I.

Effect of irradiation on the catalytic activity of platinum
during hydrogenation. Zhur.fiz.khim. 39 no.11:2742-2744 N
'65. (MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.
Lomonosova.

SHASHKOV, A.S.; KRYLOVA, I.V.

Decomposition of hydrogen peroxide on copper catalysts. Vest.
Mosk. un. Ser. 2:Khim. 20 no. 5:37-41 S-O '65. (MIRA 18:12)

1. Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo
universiteta. Submitted Sept. 7, 1964.

KRYLOVA, K. T.		PROCESSING AND PROPERTY DATA	
CO		15	
<p>Hydrogen sulfide as a pesticide. K. T. Krylova, <i>Russ. Plant Protection</i> (U.S.S.R.) Ser. 119, No. 8, 88-91 (1938).</p> <p>A 0.00% content of H_2S in air is lethal to rodents. Good results were obtained with a slag and 20 g/l Al_2S_3, although the results were not so satisfactory in untreated soil. When slag was used, the granules should have a diam. of 2 mm. 5 g. per burrow was used. A. A. B.</p>			
<p>ASB-11.1 METALLURGICAL LITERATURE CLASSIFICATION</p>			

IRYLEVA, K. T.

42203. VARJHAVSKIJ, S. N., IRYLEVA, K. T. - Osnovnyye printelnyye otrezki i ya vozrastn myshon-
nykh pryzm. I. Myshi-Murina. Materialy k izucheniyu fauny flory 3337, izd. Mosk.
o-vom ispytateley prirody, Novaya seriya. Otd. zool., vyp. 3, 1948, s 172-90. 0
Bibliogr. 30 nazv.

30: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

VARSHAVSKIY, S.N.; KRYLOVA, K.T.

Underlying principles of establishing the age of murine rodents.
Mat. k pozn. fauny i flory SSSR. Otd. zool. no.17:179-190 '48.
(Mice) (Teeth) (MIRA 11:3)

KRYLOVA, K.T.

"Peculiarities of Seasonal Dynamics of Micro-populations of Mice and Field Mice during Periods of Decreased Population".

Dok. Akad. Nauk, 61, No. 5, 1948.

KRYLOVA, K.T.; SHILOVA, Ye.S.; SHILOV, M.N.

Characteristics of the ecology of the jird (*Rhombomys opimus* Licht.)
during the winter period in the northern Aral Sea region. Biul.MOIP
Otd.biol. 59 no.2:3-14 Mr-Apr '54. (MLRA 7:6)
(Aral Sea region--Rodentia) (Rodentia--Aral Sea region)

KRYLOVA, K. T., SHILOVA. E. S.

"Certain ecological characteristics of the yellow marmot in northern Priaral'ye which are important in the epizootology of the plague." p. 243

Desyatoye Soveshchaniye po parazitologicheskim problemam i prirodnootchaynym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, Vol 264pp.

Aralamorskaya Antiplague Station

KRYLOVA, K.T.; KAMYSHEV, A.I.

Testing new poisons for use in controlling the greater gerbil and
its ectoparasites. Biol. MOIP. Otd. biol. 65 no.5:135 8-0 '60.
(MIRA 13:12)

(RODENTICIDES)

(INSECTICIDES)

KRYLOVA, K.T.; VARSHAVSKIY, S.N.; SHILOVA, Ye.S.; SHILOV, M.N.; PODLESSKIY, G.I.;
KOMARDINA, M.G.

Characteristics of interspecific contact in colonies of the greater
gerbil (*Rhombomys opimus* Licht.) in the northern part of the Aral
Sea region. Zool. zhur. 40 no.3:434-446 Mr '61. (MIRA 14:3)

1. Aral Sea Anti-Plague Station and Aral Branch of the Moscow
Society of Naturalists.

(Aral Sea Region—Gerbils as carriers of disease)

KRYLOVA, K.Y.

Criterion for the determination of group invalidism in patients with bronchial asthma. Kas.med.shur. 41 no.1:21-24 Ja-F '60.

(MIRA 13:6)

1. Iz Tsentral'nogo nauchno-issledovatel'skogo instituta ekspertizy trudosposobnosti i organizatsii truda invalidov (direktor - prof. D.I. Gritskevich, sav. klinikoy - prof. L.I. Vogel'son).
(DISABILITY EVALUATION) (ASTHMA)

ACC NR: AP7007802

(A, N)

SOURCE CODE: UR/0080/67/040/001/0061/0066

AUTHOR: Borisova, Z. U.; Krylova, L. A.

ORG: none

TITLE: Electric conductivity and microhardness of glasses of the arsenic-phosphorus-selenium system

SOURCE: Zhurnal prikladnoy khimii, v. 40, no. 1, 1967, 61-66

TOPIC TAGS: arsenic compound, selenium compound, phosphorus compound, glass property

ABSTRACT: The electric conductivity and microhardness of glasses obtained by gradually replacing arsenic with phosphorus in vitreous $\text{AsSe}_{1.5}$ and $\text{AsSe}_{2.5}$ were studied. In the vitreous products $\text{As}_x\text{P}_{(1-x)}\text{Se}_{1.5}$ and $\text{As}_x\text{P}_{(1-x)}\text{Se}_{2.5}$ obtained, x ranged from zero to unity. Their electric conductivity was found to decrease by three orders of magnitude upon substitution of phosphorus for arsenic. The energy of electric conductivity increased correspondingly by 0.7 eV. The observed decrease of conductivity is apparently due to the greater strength of phosphorus-selenium bonds as compared to that of arsenic-selenium bonds. The change in the nature of conductivity in glasses of compositions $\text{As}_x\text{P}_{(1-x)}\text{Se}_{2.5}$ upon substitution of phosphorus for arsenic is due to the formation of tetrahedral structural units $\text{PSe}_{5/2}$. The microhardness of the glasses decreases as arsenic is replaced by phosphorus. Orig. art. has: 1 figure and 1 table.

SUB CODE: 07,20/ SUBM DATE: 29Jan65/ ORIG REF: 009/ OTH REF: 001

Card 1/1

UDC: 537.311+539.53:546.18'19'23-161.6

KRYLOVA, L.D., assistant

Opening of the bag of waters in late pregnancy toxemias.
Sbor. nauch. trud. Ivan. gos. med. inst. no.28:299-304
'63. (MIRA 19:1)

1. Iz kafedry akusherstva i ginekologii (ispolnyayushchiy obyazannosti zav. kafedroy - dotsent M.A. Timokhina) i kafedry patofiziologii (zav. kafedroy - prof. S.S. Poltyrev).

KRYLOVA, L.D., assistant

Antitoxic function of the liver and proteins of the blood
serum in late pregnancy toxemias. Sbor. nauch. trud. Ivan. gos.
med. inst. no.28:305-310 '63. (MIRA 19:1)

1. Iz kafedry akusherstva i ginekologii (ispolnyayushchiy obyazannosti zav. kafedroy - dotsent M.A. Timokhina) i kafedry patofiziologii (zav. kafedroy - prof. S.S. Poltyrev) Ivanovskogo gosudarstvennogo meditsinskogo instituta (rektor - dotsent Ya.M. Romanov).

GREBEN', L.K., akademik; BAYDUGANOVA, Ye.P., nauchnyy sotr.;
 SAVCHENKO, P.Ye., kand. biol. nauk; GREBEN', Ye.K.,
 kand. sel'khoz. nauk; KRYLOVA, L.F., nauchn. sotr.;
 SIDOROVA, L.M., nauchn. sotr.; SOROKINA, V.I., nauchn.
 sotr.; BAGMET, M.I.; LAZORENKO, Ye.L.; KHOKHLYUK, A.G.;
 PASHKEVICH, M.K.; BRYZHNIK, K.A.; LUZHKOV, M.A., kand.
 sel'khoz. nauk; BALASHOV, N.T., kand. sel'khoz. nauk;
 ZHELIKHOVSKIY, V.I., redaktor; POTOTSKAYA, L.A., tekhn.
 red.

[Ukrainian White Steppe swine] Ukrainskaia stepnaia belaia
 poroda svinei. Pod obshchei red. L.K.Grebenia. Kiev, Gos-
 sel'khozizdat USSR, 1962. 252 p. (MIRA 16:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut zhivotno-
 vodstva stepnykh rayonov im. M.F.Ivanova "Askaniya-Nova."
 2. AN Ukr.SSR i Vsesoyuznaya akademiya sel'skokhozyaystven-
 nykh nauk im. V.I.Lenina (for L.K.Greben'). 3. Ukrainskiy
 nauchno-issledovatel'skiy institut zhivotnovodstva stepnykh
 rayonov im. M.F.Ivanova "Askaniya-Nova" (for Bayduganova).
 4. Melitopol'skaya gosudarstvennaya plemennaya stantsiya
 (for Bagmet, Lazorenko, Khokhlyuk). 5. Spetsialist sovkhoza
 "Komsomolets", Stavropol'skiy kray (for Bryzhnik).
- (Ukraine--Swine breeding)

NIKOLAYEV, A.V.; GRIBANOVA, I.N.; YAKOVLEVA, N.I.; KRYLOVA, L.P.

Organophosphorus complex forming resins. Report 1. Nov. 88
AN SSSR no.3; Ser. khim. nauk no.1:77-81 '65.

(MIRA 18:8)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya
AN SSSR, Novosibirsk.

VOLSHTEYN, L.M.; KRYLOVA, L.F.; MOGILEVKINA, M.F.

Reaction of methionine with Reiset's second base chloride. Zhur.
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1. Novosibirskiy gosudarstvennyy universitet.

PANCHENKO, Ye.V.; PANSHINA, M.M.; KEKALOV, I.B.; BLINKOVA, T.M.; KRYLOVA, L.I.;
ZHDANOV, V.V.; ZHETVEN, N.P.; LUTCHINS, B.G.

Residual stresses in boilers made of A100 steel. Stan. i instr.
36 no.8:27-29 Ag '65. (MIRA 18:9)

GRACHEVA, O.S.; KRYLOVA, L.I.

Structure and mineralogical features of the rare-metal deposit in
the upper Seymchan Valley. Inform. sbor. VSEGEI no.9:13-24 '59.
(MIRA 13:12)

(Seymchan Valley--Cobalt)

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Page 1 of 1

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Krylova, L.I.

81880

8/129/60/000/08/007/009

E073/E135

18.11.30

AUTHORS: Zhetvin, N.P., Podvoyskiy, L.N. (Candidates of Technical Sciences), and Krylova, L.I. (Engineer)

TITLE: Brittleness of Cold Drawn Steel Kh18

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No 8, pp 30 and 35-38

TEXT: According to data published in literature the strength and ductility of high chromium steels and also the wear resistance depend to a great extent on the structure and composition of the carbides. In selecting the heat treatment regime it is necessary to bear in mind that to obtain carbide in the equilibrium state requires long heating in the range of perlitic transformation. There is a further complication that steels with high contents of chromium and carbon are prone to overheating if heated above 1200 °C. To determine the influence of the individual stages of the technology on the embrittlement and for selecting optimum test methods on specimens from current production batches, the authors investigated the influence of storing at room temperature and at below-zero temperature, the influence of tempering and also the

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Brittleness of Cold Drawn Steel Kh18

influence of plastic deformation. The investigations were carried out on the steel Kh18 (0.9% C; 0.7% Mn; 17-19% Cr; 0.6% Ni; > 0.8% Si; A_{c1} 830 °C; A_{r1} 810 °C). It was established that an increase in the normalization temperature from 1000 to 1200 °C leads to a decrease in the hardness from 2.8 to 3.9 mm (measured from the diameter of a Brinell indentation) owing to an increase of the content of residual austenite in the steel. It can be seen from the data given in Table 1 that in the case of normalization at 1000 °C tempering brings about an increase in ductility, whilst in the case of air hardening from 1200 °C tempering reduces the ductility and increases hardness. Storage at temperatures of -5 to -10 °C for 14 days reduces the ductility in the case of air hardening, both with and without annealing. On the basis of the obtained results (Tables 1-6) the following conclusions are arrived at.

1) Prior to rolling the metal should not be heated above 1150 °C since in the case of overheating the structure of the rolled metal will contain residual stable austenite.

2) Storage of hot rolled metal at room temperature or at below zero temperatures is not permissible for normal rolled and for

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8/129/60/000/08/007/009
E073/E135

Brittleness of Cold Drawn Steel Kh18

overheated metal. In normal rolled metal the brittleness is due to residual stresses which occur after cooling the metal in air and in overheated metal it is due to austenite-martensite transformation.

3) Directly after rolling the material should be tempered at 720-740 °C for removing the stresses and for partial decomposition of the residual austenite. Tempering of hot rolled metal enables obtaining a perlite-troostite structure, removing thereby the after effects of overheating.

4) For ensuring the required properties for cold working, the following regime is recommended: isothermal annealing at 880 °C for 3 hours followed by cooling at a speed of 30 °C/hour to 700 °C, holding at that temperature for 4 hours and then cooling in the furnace to 650 °C followed by cooling in air.

5) The authors also recommend isothermal annealing for increasing the ductility of the overheated metal.

6) In producing wire from the steel Kh18 it is necessary to ensure a minimum duration of the storage of the cold worked, non heat treated wire which should not exceed 8 hours.

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Brittleness of Cold Drawn Steel Kh18

The X-ray structural analysis was carried out by Engineer
Belostotskaya, TsZL Zlatoustovsk Metallurgical Combine.

There are 6 tables and 8 references: 7 Soviet and 1 German.

ASSOCIATION: Zavod "Serp i Molot"
(Serp i Molot Works)

Card 4/4

X

18.7100, 18.7500

77594
SOV/129-60-2-7/13

AUTHORS: Zhetvin, N. P., Podvoyskiy, L. N. (Candidates of Technical Sciences), Krylova, L. I. (Engineer)

TITLE: Investigation of Decarburization Kinetics of Ball Bearing Steel During Heat Treatment

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, Nr 2, pp 37-42 (USSR)

ABSTRACT: The experiments on the above subject were carried out at the laboratory of "Serp i molot" Plant (Zavod "Serp i molot"). Since it is very difficult to separate processes of scale formation and decarburization, which proceed simultaneously, the variation of carbon concentration in the surface layer after scale removal was selected as criterion of decarburization. After thorough study of decarburization in the initial rolled state, ShKh9- steel specimens (C, 1.00-1.10; Cr, 0.90-1.20; Mn, 0.20-0.40; Si, 0.15-0.35; S, 0.020;

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Investigation of Decarburization Kinetics
of Ball Bearing Steel During Heat Treatment

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$P \leq 0.027\%$) were heat-treated in a laboratory electric muffle furnace at 700, 720, 740, 760, 780, 800, and 8200 °C, with holding periods from 1 hr to 16 min in oxidizing medium and in a tube filled with cast iron chips without access of air. To determine the role of the initial decarburization in the decarburization process, samples with scale of rolling origin and those machined for complete removal of decarburized layer were heat-treated. Heat-treated samples were studied microscopically, etched for scale removal, and machined for determination of carbon content at 0.20, 0.40, and 0.60 mm depth. Figures 1-4 illustrate the results of these tests.

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Investigation of Decarburization Kinetics
of Ball Bearing Steel During Heat Treatment

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SOV/129-60-2-7/13

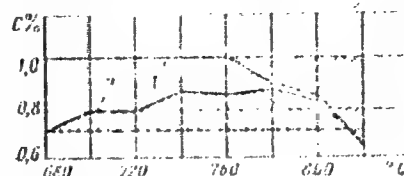


Fig. 1. Effect of temperature on variation of carbon content at 0.2 mm depth during annealing in oxidizing medium for eight hrs: (1) machined samples; (2) samples with scale.

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of Ball Bearing Steel During Heat Treatment

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307/129-60-2-7/13

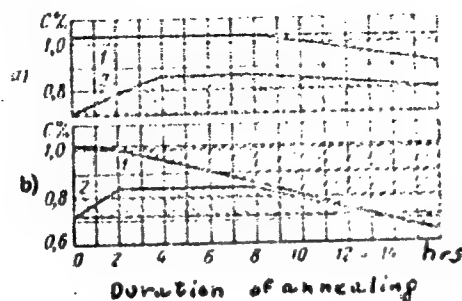


Fig. 2. Effect of time on variation of carbon content at 0.2 mm depth during annealing; at 800° C: (a) in the tube; (b) in oxidizing medium; (1) machined sample; (2) sample with scale.

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Investigation of Decarburization Kinetics
of Bull Bearing Steel During Heat Treatment

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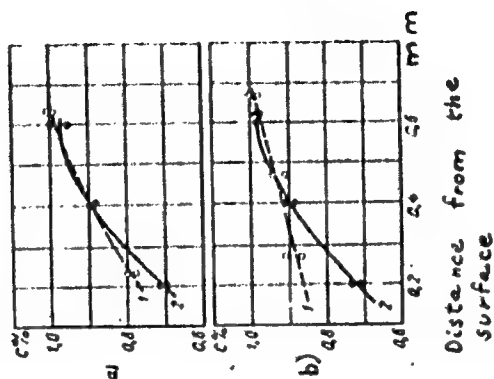


Fig. 3. Variation of carbon content in scale-covered annealed specimens after annealing for 8 hr (a) at 720° C; (b) at 780° C; (1) after annealing; (2) before annealing.

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Investigation of Decarburization Kinetics
of Ball Bearing Steel During Heat Treatment

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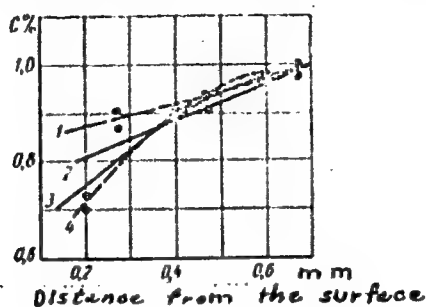


Fig. 4. Variation of carbon concentration (1) after annealing in oxidizing medium; (2) after annealing in tube; (3) before annealing in tube; (4) before annealing in oxidizing medium.

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The following conclusions were made as a result

Investigation of Decarburization Kinetics
of Ball Bearing Steel During Heat Treatment

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SOV/129-60-2-7/13

of the study: (1) Decarburization processes in ShKh9-steel do not develop at temperatures below 740° C and holding up to 16 hr. This concerns annealing of metals with or without scale in oxidizing medium or in the tube filled with fresh cast iron chips. (2) Decarburization processes develop at temperatures above 740° C and are intensified with time. For machined samples in oxidizing medium decarburization starts at: 760° C, 8 hr; 780° C, 44 hr; 800° C, 2 hr; 820° C, 1 hr. (3) For scale-covered specimens and for specimens with a previously decarburized surface layer, slight carburization (up to 1.8%) starts at 700-800° C due to diffusion processes. However, carbon content never reaches that of the initial carbon content in steel. (4) Considerable carburization of surface layer of scale-covered specimens indicates the protecting action of scale against decarburization during heat treatment. (5) No decarburization was observed either on machined or nonmachined specimens with a surface

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Investigation of Decarburization Kinetics
of Ball Bearing Steel During Heat Treatment

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SOV/129-66-2-7/13

Initially depleted of carbon after heat treatment for 8 hr at maximum temperatures of 800° C in a tube filled with carbon chips. (6) The statement of some authors that decarburized layers can be transferred into scale was not confirmed. (7) It is advisable to anneal rolled ball-bearing steel semiproduct at 760-780° C for the purpose of decreasing decarburization. Holding at temperatures above 760° C for more than 6 hr is not permitted. Pickling of rolled semiproduct promotes decarburization. (8) In order to decrease the annealing period and temperature drops in the metal, it is necessary to provide spaces between metal parts and decrease weight of metal charge in the furnace. (9) Pearlite grain structure is produced across the total cross section of the rod by annealing sized components in tubes (for stress relieving and structure equalization) at maximum temperatures of 740° C and maximum holding time of 10-12 hr. Bright annealing above 740° C leads to the formation of

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Investigation of Decarburization Kinetics
of Ball Bearing Steel During Heat Treatment

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lamellar pearlite in the surface depleted of carbon.
There are 4 figures; and 2 Soviet references.

ASSOCIATION: "Serp 1 Molot" Plant (Zaved "Serp 1 molot")

Card 9/9

ACC NR: AP6031651

SOURCE CODE: UR/0020/66/170/001/0139/0142

AUTHOR: Zubov, P. I.; Kiselev, A. V. ; Krylova, L. M.; Sukhareva, L. A.; Lygin, V. I.

ORG: Institute of Physical Chemistry, Academy of Sciences, SSSR (Institut fizicheskoy khimii Akademii nauk SSSR); Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Effect of molecular interaction between polymers and solids in the mechanical properties of polymer coatings

SOURCE: AN SSSR. Doklady, v. 170, no. 1, 1966, 139-142

TOPIC TAGS: polymer coating, molecular interaction, ~~polymer~~, ~~solid~~, internal stress, ~~coating~~ strength, ~~coating~~ adhesion, *plastic coating*, *polyester resin*, *alloy* resin, *plastic filler*, *mechanical property*

ABSTRACT: A study has been made of the interaction of polymer functional groups with filler surfaces, and of the effect of this interaction on the internal stresses, strength, and adhesion of polymer coatings. The experiments were conducted with PN-1 polyester resin or FL-50 akyl resin, and aerosil filler, both nonmodified or modified with actadecylamine. The interaction was studied by IR spectroscopy. The results of the experiments given in graphic form indicated that the mechanical properties of polymer coatings are highly dependent on the nature of the molecular interaction between polymers and solids. Orig. art. has: 4 figures.

SUB CODE: 11, 20/ SUBM DATE: 07Dec65/ ORIG REF: 008/ OTH REF: 001

Card 1/1

UDC: 541.68

. KRYLOVA, L.M.

Iridencleisis in glaucoma. Vest.oft. no.6:24-27 '61.

(MIRA 14:12)

1. Kafedra glaznykh bolezney (zav. - prof.P.Ye. Tikhomirov)
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(GLAUCOMA) (IRIS (EYE)—SURGERY)

KRYLOVA, L.M.; MERTSALOVA, O.B.

Variation of density in the free atmosphere over some regions
of the northern hemisphere. Trudy NIILAK no.30:119-132 '65.
(MIRA 18:12)

ACC NR: AP6013477

SOURCE CODE: UR/0374/66/000/002/0292/0295

AUTHOR: Zubov, P. I.; Sukhareva, L. A.; Grozinskaya, Z. P.; Krylova, L. M.; Kochkin, D. A.; Rzaev, Z. M.

ORG: Institute of Physical Chemistry, Academy of Sciences USSR (Institut fizicheskoy khimii Akademii nauk SSSR)

TITLE: Study of the physicommechanical properties of styromal-base coatings

SOURCE: Mekhanika polimerov, no. 2, 1966, 292-295

TOPIC TAGS: polymer structure, protective coating, solid physical property, solid mechanical property, adhesion

ABSTRACT: A two-component system obtained by copolymerizing styrene¹ with maleic anhydride in the proportion of 1:1 at 60°C without catalyst or solvent was studied. The mechanism of forming was investigated by studying the internal stresses, the structure of the coatings, and the strength and adhesion characteristics. Kinetic data on internal stresses showed that the forming process is practically complete after one hour of curing and that the limiting value of these stresses is independent of the conditions under which the coatings were formed. The effect of forming temperature on the structure was studied by IR spectroscopy. Coatings formed from acetone solutions were

UDC: 678:539.4019

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I. 26146-66

ACC NR: AP6013477

found to have a weak adhesion to glass (6-7 kg/cm²), but those formed from solutions of styromal in dimethylformamide had a higher adhesion (25 kg/cm²). The elasticity of the coatings increased upon addition of triethylene glycol diester of methacrylic acid (TGM). An increase in the latter gradually lowered the physicochemical characteristics of the coatings. Coatings most stable to the action of high temperatures were those obtained from solutions in dimethylformamide containing up to 20% TGM. Orig. art. has: 6 figures, 1 table.

SUB CODE: 07,11/

SUBM DATE: 21Jun65/

ORIG REF: 005/

OTH REF: 000

Card

2/2

L 26531-66 ENT(1)/FCC GW

ACC NR: AT5028836

SOURCE CODE: UR/2667/65/000/030/0119/0132

AUTHOR: Krylova, L.M.; Mertsalova, O.B.

ORG: none

TITLE: Variations of air density in the free atmosphere over certain regions of the northern hemisphere

SOURCE: Moscow, Nauchno-issledovatel'skiy institut aeroklimatologii. Trudy, no. 30, 1965. O korrelyatsionnykh zavisimostyakh temperatury i davleniya v svobodnoy atmosfere (Correlations of temperature and pressure in the free atmosphere), 119-132

TOPIC TAGS: free atmosphere, atmospheric density, atmospheric pressure, atmospheric temperature

ABSTRACT: Methods were developed for the determination of the root mean square deviation of the air density, using observation statistics of air pressure and temperature. The problem has recently gained importance due to progress in aviation and rocketry necessitating air density evaluations at higher altitudes. Geographical, altitude and seasonal distributions of density and of density deviations were computed and presented in form of graphs and tables, and their salient features discussed. The air density was calculated from the equation of state

$$\rho = p / RT, 10^3 \text{ gr/m}^3 \quad (1)$$

where ρ - air density in grams/meter, p - pressure in mb; R - gas constant, equal to

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ACC NR: AT5028836

2870.4 $\cdot 10^3$ ergs/gram.degree; T_v - virtual temperature. The humidity was neglected and actual temperature was used instead of the virtual. A punch card sorting method was devised to meet the difficulty in processing density data referred to isobaric instead

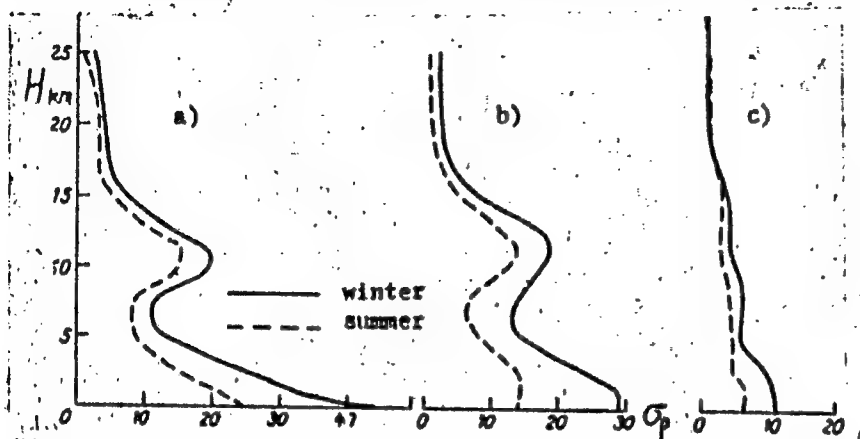


Fig. 1. Vertical distribution of the mean square deviation of air density for:
a) Coral Harbor; b) Keflavik; c) San Juan.

of to the actual given altitude. Data processing was accomplished on an electronic com-

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L 2531-06

ACC NR: AT5028836

puter. The air density deviation, σ , is related to the deviations of pressure, σ_p , and temperature, σ_T , by the Dines formula (2):

$$\sigma = -p \sqrt{\left(\frac{\sigma_p}{p}\right)^2 + \left(\frac{\sigma_T}{T}\right)^2} - 2r_{pT} \frac{\sigma_p}{p} \frac{\sigma_T}{T} \quad (2)$$

where r_{pT} - is the correlation coefficient between pressure and temperature. The results revealed presence of disturbed layers, having increasing density deviations with altitude. Fig. 1 shows this phenomenon for three stations; it can be explained by the behaviour of the correlation coefficients, on the basis of (2). A physical explanation was found in the restructuring of the temperature fields in the passage from the tropospheric to the stratospheric regimes. Due to paucity of stations with high level data, no geographical map of density deviations was made. Instead, a density distribution was developed for a vertical section over a geographical line based on 12 stations, running from the Antile islands over North America and Canada (Edmonton) to Greenland, Iceland and over Central Europe to Aden in the south of the Arabian peninsula. The large deviations of density over Canada during winter show the result of frequent arctic air invasions down to the 50° latitude. Orig. art. has: 4 figures, 5 formulas and 2 tables.

SUB CODE: 04

SUBM DATE: 00

ORIG REF: 011

OTH REF: 001

Card 3/3

FREYDLIN, L.Kh.; LITVIN, Ye.F.; ZHUKOVA, I.F.; Prinsipal uchastiye
KRYLOVA, L.M.

Investigation of hydrogenation reactions of piperylene stereoisomers on a skeletal nickel catalyst. Neftekhimiya 1 no.2:213-217
Mr-Apr '61. (MIRA 15:2)

1. Institut organicheskoy khimii AN SSSR im. N.D. Zelinskogo.
(Piperylene) (Hydrogenation)
(Catalysts, Nickel)

FRYDAN, L. M.; LATVIN, V. F.; REPOVA, L. I.

Investigating the hydrogenation of nitro compounds in the
presence of rhodium black. Neftokhimiya 4:10:166-168 Mr-Ap-64
(1964 17:8)

1. Institut organicheskoy khimii Akad. Nauk SSSR, Gellinskogo.

DROBKin, A.Ye.; Prinimali uchastiye: GOLUBINSKAYA, M.A.; KRYLOVA, L.M.;
MEDNIKOVA, V.M.

Naphthalene and ammonia content of oil-shale gas. Trudy VNIIT no.10:
91-95 '61. (MIRA 15:3)
(Oil shales)(Naphthalene)(Ammonia)

BABUSHKIN, A.A.; GOLIKOVA, V.S.; KRYLOVA, L.M.; KIMEL'FEL'D, Ya.M.;
ZUBOV, P.I.

Use of infrared spectrometry in studying the kinetics of the
formation of polymer coatings. Izv. AN SSSR. Ser. fiz. 27
no.7:978-980 '63. (MIRA 16:8)

1. Institut fizicheskoy khimii AN SSSR.
(Solid film) (Spectrum, Infrared)

BABUSHKIN, A.A. (Moskva); KRYLOVA, L.M. (Moskva); GORIN, A.I. (Moskva)

Interpretation of the infrared absorption spectra of formaldehyde
in aqueous solution. Zhur. fiz. khim. 38 no.10:2361-2366 O '64.
(MIRA 18:2)

1. Institut fizicheskoy khimii AN SSSR.

BABUSHKIN, A.A.; KRYLOVA, L.M. (Moskva)

Interpretation of the infrared spectra of water-soluble phenol-formaldehyde resin. Zhur. fiz. khim. 38 no.10:2367-2371 O '64.
(MIRA 18:2)

1. Institut fizicheskoy khimii AN SSSR.